3GPP TSG-RAN WG3 #116-e R3-223722

Online, 09th -19th May, 2022

Agenda Item: 9.3.9

Source: Huawei (moderator)

Title: Summary of CB: #10\_IABCorr

Document for: Approval

# Introduction

This paper is for the following offline discussion:

|  |
| --- |
| **CB: # 10\_IABCorr**  **- Check details and the necessity**  (HW - moderator)  Summary of offline disc [R3-223722](file:///C:\\temporary\\RAN3\\RAN3%20May%2022\\CB%20sessions\\10_IAB_corr\\Inbox\\R3-223722.zip) |

The following papers will be covered as assigned by the chair:

|  |  |  |
| --- | --- | --- |
| [R3-223390](file:///D:\\会议硬盘\\TSGR3_116-e\\Docs\\R3-223390.zip) | Correction on IAB-DU Cell Resource Configuration (Huawei, Lenovo) | CR0912r, TS 38.473 v16.9.0, Rel-16, Cat. F |
| [R3-223391](file:///D:\\会议硬盘\\TSGR3_116-e\\Docs\\R3-223391.zip) | Correction on IAB-DU Cell Resource Configuration (Huawei, Lenovo) | CR0913r, TS 38.473 v17.0.0, Rel-17, Cat. A |
| [R3-223392](file:///D:\\会议硬盘\\TSGR3_116-e\\Docs\\R3-223392.zip) | Correction for IAB PSK generation (Huawei, Samsung) | CR0699r, TS 38.463 v16.9.0, Rel-16, Cat. F |
| [R3-223393](file:///D:\\会议硬盘\\TSGR3_116-e\\Docs\\R3-223393.zip) | Correction for IAB PSK generation (Huawei, Samsung) | CR0010r, TS 37.483 v17.0.0, Rel-17, Cat. A |

**Phase I**：Converge on the CRs. Please give your feedback before Friday, 13th May, 2022, 23:59 UTC.

**Phase II**：if any need to be further discussed.

# For the Chairman’s Notes

**[To be updated].**

# Discussion-Phase I

## F1AP correction: R3-223390 and R3-223391

R3-223390 (Cat. F) propose to change the order of TDD and FDD in the *IAB-DU Cell Resource Configuration-Mode-Info* in the *Activated Cells To Be Updated List Item* IE and*Child-Node Cells List Item* IE, to align with the ASN.1 part. And R3-223391 (Cat. A) is the mirror CR of R3-223390 for Rel-17 specification.

**Q1: Do you support the CR R3-223390 and R3-223391?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments if any** |
| Huawei | Yes |  |
| **Ericsson** | **Yes, and** | Since we are already working on this Rel-16 CR, we think that the Rel-16 CR should be revised to also include the following change: **the four ENUMERATED fields in 9.3.1.108 Multiplexing Info should be made extensible**, so that the changes to the IE introduced during Rel-17 IAB are made BC. This can be easily done by the following change (example for one of the 4 fields in the IE, DU\_RX/MT\_RX, DU\_TX/MT\_TX, DU\_TX/MT\_RX, DU\_RX/MT\_TX):  ENUMERATED (supported, not supported, …)  This would result in a lean design of the IE and a smooth incorporation of the already agreed Rel-17 enhancements of the IE. |
| Samsung | Yes |  |
| QCOM | Yes |  |
| Nokia | Yes |  |
| ZTE | Yes |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## E1AP correction: R3-223392 and R3-223393

R3-223392 (Cat. F) propose to add a NOTE in the clause 8.5.2.1 to clearly state that the IAB PSK Notification procedure will be performed after the IAB-donor-CU-CP obtaining the IP address of IAB-DU and IAB-donor-CU-UP from the E1AP procedures (e.g. Bearer context setup/modification procedure, IAB UP TNL address Update procedure ) and/or the F1AP procedures (e.g. UE context setup/modification procedure, IAB-UP configuration update procedure). While R3-223393 (Cat. A) is the mirror CR of R3-223392 for Rel-17 specification. The reason for change has been pasted below.

|  |  |
| --- | --- |
| ***Reason for change:*** | In previous RAN3 meeting, the IAB PSK Notification procedure has been introduced in E1 interface to allow the IAB-donor-CU-CP to send the security key info to the IAB-donor-CU-UP. Each IAB-donor-CU-UP PSK info item includes an IAB-Donor-CU-UP PSK, an IP address of IAB-DU, and an IP address of CU-UP.  Then the problem is how can the IAB-donor-CU-CP know the IP address of CU-UP and IAB-DU in advance. There are two possible way for the IAB-donor-CU-CP to know the IP address:  **Option 1**: IAB-donor-CU-CP know the IP address of IAB-DU and IAB-donor-CU-UP from UE associated signaling in E1 and F1 interface, i.e. from the UL/DL UP parameters contained in the bearer context management procedure (including the Bearer context setup procedure and the Bearer context modification procedure) via E1 interface, and the UE Context management procedure (including the UE context setup procedure and UE context modification procedure) via F1 interface.  **Option 2:** IAB-donor-CU-CP know the IP address of IAB-DU and IAB-donor-CU-UP from non-UE associated signaling in E1 and F1 interface, if the IP address(es) has been updated during the topology update procedure. The mentioned NUA signaling is the message in IAB UP TNL address Update procedure in E1 inerface, and the IAB-UP configuration update procedure in F1 interface.  Therefore, the current procedure in E1 and F1 interface can provide the IP address information which is necessary for the IAB PSK Notification procedure, and these procedures should be performed before the IAB PSK Notification procedure. But the relationship between these procedures is missing in the current specification, then it is unclear how will the IAB-donor-CU-CP know the IP address of CU-UP and IAB-DU to provide the security key info towards the IAB-donor-CU-UP. |

The change is pasted as following:

-------------------------------------------Start of changes-------------------------------------------

8.5.2 IAB PSK Notification

8.5.2.1 General

The purpose of the IAB PSK Notification procedure is to allow the gNB-CU-CP to send the security key info to the gNB-CU-UP, which will be used for the IKEv2 Pre-shared Secret Key (PSK) authentication to protect the F1-U interface of the IAB-node(s) as specified in TS 33.501 [13]. The procedure uses non-UE associated signalling.

NOTE: This procedure is applicable for IAB-nodes, where the term "gNB-CU-CP" applies to IAB-donor-CU-CP, and the term “gNB-CU-UP” applies to IAB-donor-CU-UP.

NOTE: Implementation should ensure that the IAB PSK Notification procedure be performed after the IAB-donor-CU-CP obtaining the IP address of IAB-DU and IAB-donor-CU-UP from the E1AP procedures (e.g. Bearer context setup/modification procedure, IAB UP TNL address Update procedure ) and/or the F1AP procedures (e.g. UE context setup/modification procedure, IAB-UP configuration update procedure).

**Q2: Do you support the CR R3-223392 and R3-223393?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments if any** |
| Huawei | Yes | The affected clauses in the cover page should be added. |
| **Ericsson** | **Yes, with some polishing** | NOTE: Implementation should ensure that the IAB PSK Notification procedure be performed after the IAB-donor-CU-CP obtains the IP address of the IAB-DU and the IAB-donor-CU-UP via the E1AP procedures (e.g. Bearer context setup/modification procedure, IAB UP TNL address Update procedure ) and/or via the F1AP procedures (e.g. UE context setup/modification procedure, IAB-UP configuration update procedure). |
| Samsung | Yes |  |
| QCOM | Yes, with Ericsson’s rewording. |  |
| Nokia |  | Is this obvious? If CU-CP does not know the IAB’s IP address, it cannot calculate the PSK and not be able to initiate this procedure. In addition, it is not appropriate to capture the interaction between E1AP and F1AP in stage-3. It should be in Stage-2.  If this is really needed, suggest keep it simple, e.g.  NOTE: Implementation should ensure that the IAB PSK Notification procedure be performed after the IAB-donor-CU-CP obtaining the IP address of IAB-DU and IAB-donor-CU-UP |
| ZTE | No | We share the same view with Nokia. It’s true that IAB PSK Notification procedure be performed after the IAB-donor-CU-CP obtaining the IP address of IAB-DU and IAB-donor-CU-UP. But we don’t see the necessity to add this NOTE. The IAB PSK Notification procedure cannot be able to initiated if donor-CU-CP is not aware of IP address of IAB-DU and donor-CU-UP. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |